

CUSTOMER **Circuit**

SPRING 2018

WESTERN AREA POWER ADMINISTRATION

Technology enhances operations

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LETTER FROM THE CIO

By Mike Montoya

Cybersecurity of critical infrastructure has become almost daily front page news. The vulnerability of the grid, real or perceived, cyber and physical, is a topic on every senior decision maker's dashboard, regardless of their professional affiliation.

Recent years have brought about a perfect storm in the evolution of cybersecurity, risk management and compliance. In the face of cyber-attacks in both corporate and government offices and physical attacks on infrastructure, WAPA continues to take the path of due diligence, investing in and refining its cyber and physical security capabilities.

As both a federal agency and an operating utility providing transmission in excess of 100 kilovolts, WAPA is bound by the cybersecurity standards of the federal government and the North American Electric Reliability Corporation. Cybersecurity policies and regulations that WAPA must meet include the standards from the Federal Information Security Management Act and the NERC Critical Infrastructure Protection plan.

Keeping our system reliable and secure as well as meeting these standards is integral to the service we provide to our customers. Since 2015, WAPA has been taking steps to increase security on our control and transmission system. These improvements focus on bringing the entire system into compliance with the CIP standards, as well as meeting the expectations of WAPA's stakeholders. More importantly, improving the physical and cybersecurity of our system is the right thing to do.

Notably, our physical infrastructure spans 15 states and includes more than 800 substations and communications sites. WAPA is assessing these sites for vulnerabilities and to date, has identified more than 150 sites that require some level of mitigation under the CIP standards. Physical improvements such as upgrading fences and gates, as well as implementing electronic access control systems, network connectivity and video surveillance have been made to numerous sites. Most of these improvements are scheduled to be complete by the fall of 2018.

Regular scanning, logging of events, alerting, patching and updating our system ensure WAPA's Information Technology infrastructure has the latest security features. Measures such as multifactor identification and ongoing cybersecurity training prepare every WAPA employee to detect, report and guard against threats. WAPA has partnered with the Department of Energy in areas such as the cyber risk information sharing program, supply chain risk management, the cooperative protection program and the DOE-wide Integrated Joint Cybersecurity Coordination Center. These programs monitor for known risk and identify potential threats, encourage sharing best practices and discovered vulnerabilities and leverage a federal intelligence system that monitors physical and cybersecurity threats across the country and around the world.

Improving WAPA tactics, techniques and procedures and integrating new capabilities requires investment and commitment. The organization continues to evaluate new methods and technologies and, when necessary realign to better face this new world of growing risk and threats.

Cybersecurity, physical security and asset management are important components of WAPA's strategic plan. Our goal is to stay ahead of the curve, but we need our customers' help to do so. In today's environment we all face the same risk and threats to our system. So make sure you stay vigilant in constantly assessing your environment. As a basic measure, ensure that your IT and operational technology systems are using the latest version of software and your security patches are up to date. Most importantly, share what you learn from your own programs with WAPA and your peers. We are all connected to the same transmission system and are only as secure as the weakest link.

FY 2019 budget shows prudent management, forward thinking



Administrator and CEO **Mark A. Gabriel** presented WAPA's fiscal year 2019 budget to the House of Representatives Water, Power and Oceans Subcommittee, April 12, and provided testimony on the valuable role the organization plays in the energy industry.

WAPA's FY 2019 budget request remains flat from last year at \$1.2 billion. Less than 6 percent is derived from traditional appropriations, which the organization repays to the U.S. Treasury with interest. The remaining 94 percent, or \$1.1 billion, will come from authorized offsetting and alternative funding resources.

These funds support utilities, rural communities, military installations, Native American tribes, Department of Energy laboratories, water and agricultural communities, cities and towns and other entities by:

- Marketing and delivering reliable, renewable, cost-based hydroelectric power and transmission services
- Bolstering WAPA's physical security and cybersecurity posture and capabilities in the face of increasingly sophisticated threats
- Reinvesting in WAPA's 17,000-mile, high-voltage transmission system and accompanying facilities

In addition to FY 2019's flat budget request, WAPA continues to focus on its financial transparency. In May, The Source website expanded to include a decade's worth of financial information related to the organization's operations and activities. Also included on the site is the unobligated reserve balance strategy for fiscal years 2016 through 2020 and the most recent year-end balances.

Last year, WAPA sold and delivered more than 26,000 gigawatt-hours of renewable, reliable, cost-based hydroelectric power to more than 700 customers in 15 states. WAPA's customers, in turn, provided this power to more than 40 million Americans.

More than 80 percent of WAPA's customers are experiencing stable or decreased rates in 2018, which are equal to or lower than industry averages. The at-cost rates benefit rural economies across the West and Midwest.

Managing costs on all fronts

Containing costs and staffing levels while meeting new mandatory regulations, physical security requirements and cybersecurity requirements demands not only sound financial practices but also close collaboration with customers.

This is the second year that more than 60 percent of WAPA's customers have benefitted from a rate reduction. Another 20 percent of customers have experienced flat rates for nine consecutive years. More than 130 public power customers, including 44 in Arizona, 23 in Colorado and 16 in Utah, are realizing the benefits of tight management of operation and maintenance costs, as well as reduced purchase power needs due to water releases from Glen Canyon Dam.

In the face of extended drought, WAPA continues to place high priority on maintaining rates for customers. The Purchase Power and Wheeling program provides WAPA with nonappropriated funds to draw on to supply customers with other, typically more expensive, sources of power when there is not enough hydropower. During a drought, WAPA uses this fund more frequently.

Congress permanently authorized the use of receipt authority for PPW expenses in 2001. The receipt authority,

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combined with alternative customer financing methods, provides flexible and sustainable sources of funding for the PPW program. Customers fund 100 percent of the costs of the \$567.4 million program through offsetting collections and alternative financing methods. The PPW program stabilizes both the highly variable hydropower product and customer rates, making it a vital part of WAPA's mission.

WAPA also has a number of programs dedicated to monitoring, evaluating and improving its processes and activities to ensure it is operating efficiently and effectively. In the past three years, the Continuous Process Improvement program, based on the Lean Six Sigma methodology, has completed 25 efforts, resulting in more than \$55 million in avoided and saved costs. Since 2014, CPI has yielded a 172-percent return on investment.

Building for future

Gabriel told the subcommittee about WAPA's ambitious 10-year plan with its customers to invest \$1.6 billion in the transmission infrastructure the organization owns, operates and maintains. This will be the largest investment in these resources since their original construction.

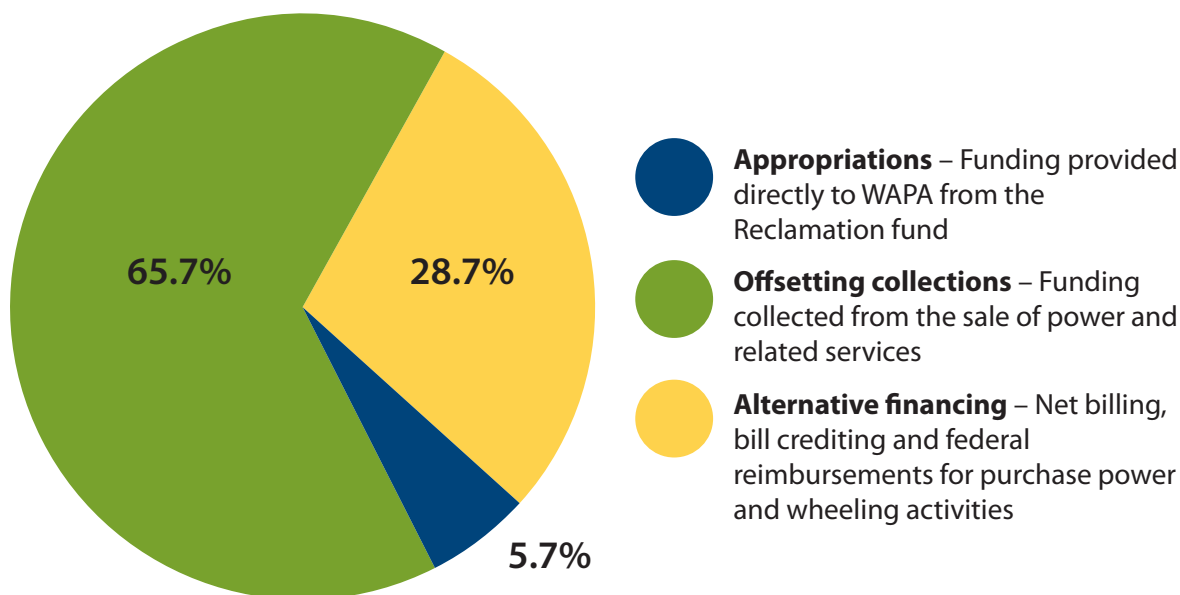
Public-private partnerships across the enterprise will achieve part of this reinvestment at no cost to customers or the government. WAPA executed a letter agreement with SunZia Southwest Transmission Project to set forth terms and options for participating in a proposed transmission line that will enable delivery of 3,000 megawatts of primarily wind energy from New Mexico to Arizona. Other current projects will replace and upgrade WAPA's existing infrastructure.

WAPA is also collaborating with the International Boundary and Water Commission and South Texas Electric Cooperative on a prioritized work plan for necessary capital and operations and maintenance projects at the Falcon and Amistad facilities.

It is important to note that financing is provided by third parties and recouped by power and transmission rates paid for by only the project beneficiaries.

"The industry is experiencing a wave of changes and opportunities the likes of which have not been seen in the past 50 years," said Gabriel. "WAPA's mission of providing at-cost, reliable, renewable power remains the same. Thanks to the investments and wise decisions we are making today, our services will provide value to our customers in a dynamic and complex energy frontier." □

FY 2019 President's Budget Request (\$1.2 billion)





FITARA: Benefitting business by coordinating technology

By Jen Neville

Energy has become an unseen “given” in everyday life. From cellphones and wearable technology to Google searches and do-it-yourself video streaming, reliable and cost-effective energy continues to feed technological advancement.

WAPA has incorporated many advancements to support the systems that keep power flowing to communities, business centers and hospitals.

“We have to get everyone to realize what technology is, and how much is out there,” said Calae Runge, an information technology specialist for policy and planning. WAPA’s technology ranges from tablets to microprocessors in relays and digital metering units. “The government is responsible for knowing and managing what it has in technology and knowing its expenditures. That goes beyond what the chief information officer purchases and manages.”

Runge is leading the effort to consolidate reporting all of WAPA’s technology to meet the requirements of the Federal Information Technology Acquisition Reform Act and other mandates.

“This effort requires a cross-functional perspective to diversely manage our resources,” said Runge. “That includes Maintenance, Operations, Procurement, Finance and Information Technology. We are all in it together. We report how much we spend on our IT equipment and where we can meet multiple functional requirements for how we procure, manage and support those purchases.”

Maintenance technology inventoried

Beyond the mandates, the effort supports better business decisions that manage technology in an organized fashion, while effectively maintaining both hardware and software in WAPA’s data centers, control centers and remote facilities throughout its 15-state service territory.

For example, the telecommunication equipment and relays installed at many WAPA substations have a technology component that allows them to communicate with other systems.

Maintenance staff works with Procurement to order the equipment, then installs, maintains and repairs it. To inventory IT and Operations technology, WAPA created the Operations and Maintenance Technology team. The team is visiting substations to record IT equipment.

“Anything with a microprocessor is subject to reporting,” explained Supervisory Electrical Engineer Chris Meyers. “We now have to take supply chain risk into account for our purchases and have IT sign off on relays.”

“Together we are making sure we get an extra set of eyes on our inventory,” he continued. “When we visit the substation, our meter and relay mechanics are right there talking with the IT folks to make sure what we have in the Maximo database is accurate.”

Justifying IT needs

Advance planning and a coordinated procurement strategy are critical for making sure staff and facilities have the technology needed to do their jobs and meet industry standards. “We are looking at our mobile device purchases, like cellphones and tablets,” said Runge. “We’re also working to reduce the number of configurations and models of laptops and desktops.”

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Using the Technology Acquisition Justification, IT staff can work with business functions to streamline the process. “TAJ includes cybersecurity review, to make sure that we are addressing supply chain risk,” said Runge. “It also allows us to start the discussion about what technology is needed and how to get it connected to the network. This includes purchases of hardware, software and service consultation, as well as the maintenance for hardware or software.”

This crucial planning step means thwarting cybersecurity concerns before they happen. Relatively recently, a major attack on a private industry domain name system service provider brought down websites and applications by overwhelming a server. Hackers had this access because the service provider’s webcam vendor from China had embedded backdoor access.

“We’re working smarter to prevent these issues by using leading practices in our IT purchases that also meet the mandates,” said Runge.

“The TAJ serves as the means of identifying what is being purchased and where it will be used, which is information that is critical to the supply chain risk management process,” said Vice President of IT–Cyber Security Jim Ball. “FITARA requires that the chief information officer has oversight of all IT procurements. The TAJ provides this transparency.”

In the past two years, the Cyber Security Information Assurance Team processed a few hundred TAJ requests and submitted numerous requests to Department of Energy staff to review the enterprise supply chain risk management.

“Responsiveness in the review of WAPA’s business partner requests for IT purchases helps minimize the delay for purchase request submittals,” said Supervisory IT Specialist Kevin Schulz.

Optimizing data center energy efficiency

IT is working to improve its data center energy footprint by reducing the number of data centers maintained and optimize the energy they use.

Power Usage Effectiveness is a standard for measuring data center energy efficiency.

“We are gathering data to baseline our PUE,” said Runge. “That means coding and reporting all of the IT equipment we have. Then we can calculate and optimize our data centers’ energy use.”

To assist with tracking, Finance corrected object class codes within its system that streamlines technology reporting WAPA-wide. In Fiscal Year 2018, the overall view of WAPA’s IT equipment will be easier to report using the Financial Information Management System to pull data by class code.

As the intertwined relationship of energy and technology continues, WAPA has embedded these business practices that make cybersecurity risk assessment and mitigation part of the planning process. Meeting FITARA and other functional mandates in Procurement, Finance and IT verifies WAPA’s efforts to protect the grid and ensure reliable power. □

Note: Neville is an organizational change specialist.

What is supply chain risk management?

According to Andreas Wieland and Carl Marcus Wallenburg in *Dealing With Supply Chain Risks: Linking Risk Management Practices And Strategies To Performance*, supply chain risk management is “the implementation of strategies to manage both everyday and exceptional risks along the supply chain based on continuous risk assessment with the objective of reducing vulnerability and ensuring continuity.”

What is FITARA?

KPMG Institutes provides the following overview of FITARA: “The Federal Information Technology Acquisition Reform Act gives federal agency chief information officers greater authority over information technology investments and requires close relationships between Information Technology, Finance, Procurement and Human Resources. ... FITARA establishes an enterprise-wide approach to federal IT investment, promotes cross-functional partnerships between the CIO and key senior agency officials, provides an opportunity to move to a more disciplined and ‘agile’ IT investment strategy and emphasizes IT and asset management to facilitate value-delivery of IT investments and resource planning.”



WAPA Core Values

Seek. Share. Partner.

By Steve Johnson

Editor's note: WAPA recently refreshed the core values that guide our decision making and serve as a standard for employee behavior and actions. To learn more about WAPA's core values, visit www.wapa.gov/About.

Flash back to 40 years ago. WAPA was a new organization, being created simultaneously with the Department of Energy. The first Star Wars movie had completely captured my ten-year-old self's attention. And the small town in Northern California I was growing up in was facing severe drought.

Now let's return to today. Drought is still impacting parts of the west, Star Wars continues to make box office history and WAPA's mission to market and deliver federal hydropower remains much the same.

My point? As things continue to change in our world, some basic tenets remain. And, just as important, we must continue to evolve our thinking and approach to these principles to further ourselves and our organizations.

This year, WAPA refreshed its core values, something that has not happened since 1993. This refresh represents a balance between maintaining the core beliefs that make WAPA what it is and focusing on what we need to do to further WAPA's mission in our rapidly changing world.

Basic human curiosity ensures our world will continue to change and evolve; how we choose to interact with this changing world will dictate our success as individuals and as an organization. Curiosity, collaboration, relationships and trusting that our peers have our best interests at heart provides the pieces of a puzzle we need to continue growing both individually and collectively as an organization.

Put another way, seeking new ideas, sharing relevant information quickly and acting as one team united in a common mission ensures WAPA remains a premier organization. This importance is spotlighted in one of WAPA's refreshed core values: Seek. Share. Partner.

While WAPA's core values interact and complement one another, I found "Seek. Share. Partner," to resonate personally. To seek is to remain curious and act on that curiosity to discover something new, meet someone new and find a new way to do something. When you continue to seek new things you keep your mind and spirit engaged.

To share means to open yourself up and offer your knowledge to others, to make yourself vulnerable while engaging

with others. Proactively sharing strengthens relationships and ensures prompt transfer of valuable information.

To partner is to collaborate, to work together as a team toward a common mission and vision. Partnering requires energy and openness to be successful. You must allow people to know your true self and be willing to provide and accept new information.

An example of the desire to seek, share and partner was born out of this year's Federal Employee Viewpoint Survey goals. Following the successful outcome of the Glen Canyon Dam Long-Term Experimental and Management Plan, the Colorado River Storage Project Management Center Environmental team reached out across WAPA to see if other regions could benefit from the CRSP MC team's experience. Sierra Nevada was preparing to enter into a reconsultation for the Central Valley water project, so they accepted the offer. CRSP MC biologists are supporting SN environmental personnel in an effort that will give SN more input into environmental management decisions affecting its hydropower operations.

The knowledge gained and partnerships formed through this endeavor will likely lead to lasting collaboration between the two groups. Remaining curious is one of the surest ways to continuously improve, and to improve the environment and world we live in. In this spirit, we should seek to not only gain new ideas but to share ideas as well.

We should always assume the best in each other and strive to give that best to each other in an open, collaborative environment. We must "Seek. Share. Partner," to ensure we continue to improve as individuals, and to ensure WAPA remains a premier organization in powering the energy frontier. □

Note: Johnson is WAPA's senior vice president and Colorado River Storage Project Management Center manager.

Doing business with WAPA: Automation streamlines vendor payment process

The federal government's ongoing effort to reduce red tape and save taxpayer dollars has focused on its accounts payable system with the goal of moving all agencies to electronic invoicing by the end of 2018.

As the largest single purchaser of goods and services in the United States, the federal government processes more than 19 million invoices each year. Electronic processing is used on only 40 percent or so of these invoices, with the remaining bills churning through a mix of electronic and manual processes that provide little visibility to businesses. This piecemeal approach has often resulted in late payments and the accompanying penalty fees. Moreover, late payments negatively affect vendors' cash flow, a problem that is particularly burdensome for small businesses and small business contractors.

Directive tackles inefficiency

In 2015, the Office of Management and Budget issued a memorandum aimed at standardizing this inefficient patchwork of invoicing systems. The memorandum established the 2018 deadline for all agencies to transition their invoicing systems to electronic platforms. Such systems reduce paper-handling processes and work duplication while giving both federal agencies and contractors the ability to track payment status.

**ELECTRONIC INVOICING,
AS DEFINED BY THE
MEMORANDUM, REFERS TO
PAYMENT REQUESTS FOR
COMMERCIAL GOODS AND
SERVICES THAT ARE MANAGED
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WORKFLOW.**

Such an undertaking called for OMB to work with other federal offices to come up with recommendations for a central invoice collection portal, set and provide data standards and ensure the security of proprietary information.

Agencies could choose an invoicing system from a list of vendors approved by OMB and the Treasury. The list also included federal shared service providers for smaller agencies that do not have the staff to operate in-house systems. WAPA selected the Invoice Processing Platform, a secure, web-based centralized service that efficiently manages government invoicing from purchase order through payment notification.

Easy implementation

IPP was fully implemented April 2, after WAPA reached out to its vendors with multiple emails inviting them to register in the system before it went live. Vendors who were already using the platform to invoice other agencies did not have to reregister, but were encouraged to set up an account for WAPA invoices. The announcement also asked vendors to verify their accounts receivable contact information in System for Award Management as that information is used for WAPA's database and IPP notifications. Training was available for vendors who were unfamiliar with electronic invoicing and the IPP system.

The biggest challenge for the Offices of the Chief Financial Officer and Chief Information Officer was balancing the implementation with other high-priority projects. "Regional representatives on the core team brought a nuanced perspective to the project that we wouldn't have had if it was driven solely by Headquarters," Supervisory Accountant Justin Borsheim observed. "Because of that, we were able to build a system that accommodated almost every single thing they wanted."

Cost-effective tool

WAPA's Financial Systems Office estimates that moving invoicing to an electronic system will enable \$55,000 in cost avoidance annually. IPP is available to federal agencies and their vendors at no cost and has been shown to significantly reduce the cost of processing invoices. □

Administrator's outreach builds bridges between customers, WAPA

Like our counterparts in the private sector, WAPA exists to serve its customers. Administrator and CEO Mark A. Gabriel has made a special point of meeting customers since he joined WAPA in 2013. In fact, he says it is one of favorite parts of the job. "Powerful partnerships drive our customer service efforts," Gabriel explained. "When we listen to customers' needs and concerns, we learn how we can better serve them. As our industry is evolving so quickly, this is one of the most important things we can do."

Relationships matter

As it turns out, the customers like it, too. "Mark is the exception to the rule of the private sector pulling the best and the brightest away," said Brad Lawrence, utilities director for the city of Madison, South Dakota. Lawrence first met Gabriel at the winter customer meeting for Heartland Consumers Power District. "He clearly understood the rank and file, and he wanted to hear from ground troops," added Lawrence, who has a military background. "It's fairly rare that people at the bottom get a chance to explain things to people at the top."

Making that effort to get to know customers face to face is an important piece of relationship building that often gets overlooked in today's business environment.

"It shows respect and our customers respond to that," explained Tracy Thorne, a public utilities specialist in WAPA's Upper Great Plains Huron office. Thorne has helped to coordinate Gabriel's attendance at several events in the region and frequently accompanies him.

Answering questions, honoring innovation

Many different kinds of events give Gabriel the opportunity to visit "the field." It may be a member meeting being held by one of its generation and transmission customers, like the one at Heartland, or the gathering of an industry group.

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Administrator and CEO Mark A. Gabriel addresses customers at the annual meeting of Missouri River Energy Services.
(Photo courtesy of Missouri River Energy Services)

Last summer, Gabriel was a guest at the annual picnic of the Northwest Iowa Municipal Electric Cooperative Association, where five WAPA customers were in attendance. Members were concerned about impending regulations before the Federal Energy Regulatory Commission, and Gabriel wanted to discuss the issues. More importantly, he listened. “He was sympathetic to our concerns,” said Eric Stoll, general manager of Milford Municipal Utilities in Iowa. “Gabriel didn’t dismiss us because we are a small customer. That really means a lot to us. We didn’t feel overlooked at all.”

Stoll recalled buzzing around town in a GEM electric vehicle with Gabriel. “At one point, we pulled up to a curb and someone thought we were the meter maid,” he laughed.

One trip to Nebraska in 2017 was specifically to honor South Sioux City for delivering impressive innovation along with affordable, reliable power. Gabriel presented the municipal utility with WAPA’s Administrator’s Award. “The vision our customers show never fails to impress me and that is especially true of smaller utilities like South Sioux City,” Gabriel said. “It is a pleasure to meet the people who are doing this work and to bring attention to their accomplishments.”

No occasion too big, small for visit

The spring has been an active time for meeting with customers. At the end of April, Gabriel traveled to Nebraska to speak at the Big 10 and Friends Utility Conference in Omaha. The meeting brings together facility and energy managers from Big 10 and other schools and utility professionals to discuss the business of campus utility production, distribution, metering and efficiency. Gabriel gave the keynote address titled “Radical thoughts: Providing value amid a changing energy landscape” to an audience of about 260 individuals.

Thorne noted that the presentation was very well received. “Afterward, I overheard attendees comment about how much they enjoyed Mark’s presentation—and they didn’t know I was from WAPA!” he added. “People had a lot of good questions for Mark, and he had the answers. I think if it had been a smaller crowd, the discussion could have gone on for hours.”

While in Nebraska, Gabriel also attended meetings with several municipal utilities in Randolph and Fremont, and met with Nebraska Public Power District in Columbus. Jody Sundsted, senior vice president and UGP regional manager, joined Gabriel for those meetings. Utility staff and consumers in small towns are engaged with the same issues as their counterparts in more urban areas, Sundsted noted. “People had a lot of questions about the Southwest Power Pool, behind-the-meter generation, battery storage,” he said. “They really appreciate getting answers from the administrator himself.”

WAPA’s experience with the Southwest Power Pool was also a topic of interest at Missouri River Energy Services’ annual meeting in Sioux Falls, South Dakota, May 10. Gabriel’s presentation highlighted some of the challenges that WAPA and all utilities will be facing in the future, including societal changes, economic challenges and security challenges. He assured the group of continuing value and business excellence through WAPA’s focus on direction, people and performance.

“The members of MRES look forward to the update that WAPA provides each year at the MRES Annual Meeting,” said Joni Livingston, MRES director of member services and communications. “With 59 of the 61 MRES members having WAPA allocations, they are always anxious to hear about WAPA’s rates for the Pick-Sloan region, particularly since those rates have decreased in 2017 and 2018.”

Sundsted observed that Gabriel meeting with customers benefits WAPA, too. “Customers know our brand, but it helps them to put a face with the logo, to see that WAPA is people in the utility business just like them,” he said. □



Save the date for WAPA's Technology and Security Symposium

You are invited to an exclusive technology and security symposium hosted by Western Area Power Administration.

Date: Aug. 21, 2018

Time: 8 a.m. – 5 p.m.

Location: 12155 W. Alameda Parkway, Lakewood, CO

Please save this date on your calendars. You will receive a formal invitation with event details soon.

Join WAPA and industry leaders to share and discuss unique perspectives facing our industry, our organization and you, WAPA customers. Within WAPA's 15-state footprint, emerging technologies influence how we do business. Heightened security—both physical and digital—impacts our approach. Managing and planning for those impacts is a key component in planning for the future.

We look forward to seeing you there.

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